

Title (en)  
Multilayer ceramic substrate and its production method

Title (de)  
Mehrschichtiges Keramiksubstrat und Verfahren zu dessen Herstellung

Title (fr)  
Substrat céramique multicouche et son procédé de fabrication

Publication  
**EP 1581035 A2 20050928 (EN)**

Application  
**EP 05003439 A 20050217**

Priority  
JP 2004054271 A 20040227

Abstract (en)  
An object of the invention is to connect different dielectrics electrically to each other in the direction of main surface of a sheet in a multilayer ceramic substrate and to increase the degree of flexibility in design and make the multilayer ceramic substrate compact in size. A multilayer ceramic substrate in accordance with the invention is formed of a plurality of laminated ceramic substrates including such a composite ceramic substrate of different materials that is made by inserting the second ceramic substrate (6) in a pounched-out portion made in the first ceramic substrate (1) and by planarizing its top and bottom surfaces, wherein a conductive layer (11) is formed in a portion across a boundary between the first ceramic substrate and the second ceramic substrate of the interface of the composite ceramic substrate of different materials.

IPC 1-7  
**H05K 3/46**; **H05K 1/16**

IPC 8 full level  
**C04B 35/622** (2006.01); **C04B 35/00** (2006.01); **C04B 35/495** (2006.01); **H01G 4/06** (2006.01); **H01G 4/20** (2006.01); **H05K 1/09** (2006.01); **H05K 1/16** (2006.01); **H05K 3/46** (2006.01); **H05K 1/03** (2006.01); **H05K 3/00** (2006.01)

CPC (source: EP KR US)  
**H05K 1/162** (2013.01 - EP US); **H05K 3/46** (2013.01 - KR); **H05K 1/0306** (2013.01 - EP US); **H05K 3/005** (2013.01 - EP US); **H05K 3/4611** (2013.01 - EP US); **H05K 3/4629** (2013.01 - EP US); **H05K 2201/0187** (2013.01 - EP US); **Y10T 29/49155** (2015.01 - EP US); **Y10T 29/49162** (2015.01 - EP US); **Y10T 29/49163** (2015.01 - EP US); **Y10T 29/49165** (2015.01 - EP US); **Y10T 156/1056** (2015.01 - EP US); **Y10T 156/1057** (2015.01 - EP US); **Y10T 428/24322** (2015.01 - EP US)

Citation (examination)  
• US 6072690 A 20000606 - FAROOQ MUKTA S [US], et al  
• US 5759331 A 19980602 - WALLACE KENNETH M [US]  
• US 5274916 A 19940104 - KAWABATA SHOICHI [JP], et al

Cited by  
US11943845B2

Designated contracting state (EPC)  
DE FI FR

DOCDB simple family (publication)  
**EP 1581035 A2 20050928**; **EP 1581035 A3 20070815**; CN 100484366 C 20090429; CN 1662116 A 20050831; JP 2005244070 A 20050908; JP 4071204 B2 20080402; KR 100995791 B1 20101122; KR 20060042212 A 20060512; TW 200529723 A 20050901; US 2005189137 A1 20050901; US 2007110956 A1 20070517; US 7243424 B2 20070717

DOCDB simple family (application)  
**EP 05003439 A 20050217**; CN 200510052156 A 20050225; JP 2004054271 A 20040227; KR 20050015725 A 20050225; TW 94105311 A 20050222; US 5958505 A 20050217; US 62279507 A 20070112